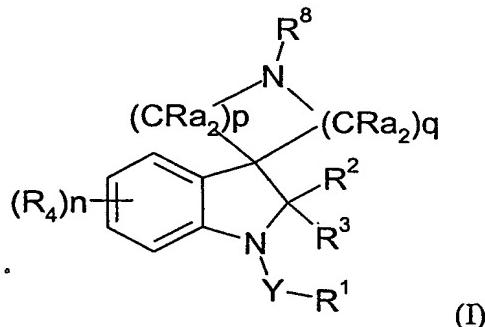


## CLAIMS

1. A method of combating and controlling insects, acarines, nematodes or molluscs which comprises applying to a pest, to a locus of a pest, or to a plant susceptible to attack by a pest an insecticidally, acaricidally, nematicidally or molluscicidally effective amount of a compound of formula I.



wherein Y is a single bond, C=O, C=S or S(O)<sub>m</sub> where m is 0, 1 or 2; R<sup>1</sup> is hydrogen, optionally substituted alkyl, optionally substituted alkoxy carbonyl, optionally substituted alkyl carbonyl, aminocarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted heterocyclyloxy, cyano, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkenyl, formyl, optionally substituted heterocycl, optionally substituted alkylthio, NO or NR<sup>13</sup>R<sup>14</sup> where R<sup>13</sup> and R<sup>14</sup> are independently hydrogen, COR<sup>15</sup>, optionally substituted alkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocycl or R<sup>13</sup> and R<sup>14</sup> together with the N atom to which they are attached form a group -N=C(R<sup>16</sup>)-NR<sup>17</sup>R<sup>18</sup>; R<sup>15</sup> is H, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted aryloxy, optionally substituted heteroaryl, optionally substituted heteroaryloxy or NR<sup>19</sup>R<sup>20</sup>; R<sup>17</sup>, R<sup>18</sup> and R<sup>18</sup> are each independently H or lower alkyl; R<sup>19</sup> and R<sup>20</sup> are independently optionally substituted alkyl, optionally substituted aryl or optionally substituted heteroaryl; R<sup>2</sup> and R<sup>3</sup> are independently hydrogen, halogen, cyano, optionally substituted alkyl, optionally substituted alkoxy or optionally substituted aryl;

each R<sup>4</sup> is independently halogen, nitro, cyano, optionally substituted C<sub>1-8</sub> alkyl, optionally substituted C<sub>2-6</sub> alkenyl, optionally substituted C<sub>2-6</sub> alkynyl, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, 5 optionally substituted C<sub>3-7</sub> cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio or R<sup>20</sup>R<sup>21</sup>N where R<sup>20</sup> and R<sup>21</sup> are, independently, hydrogen, C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-6</sub> alkenyl, C<sub>3-6</sub> alkynyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, C<sub>2-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkoxycarbonyl or R<sup>20</sup> and R<sup>21</sup> 10 together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups, or 2 adjacent groups R<sup>4</sup> together with the carbon atoms to which they are attached form a 4, 5, 6, or 7 membered carbocyclic or heterocyclic ring which may 15 be optionally substituted by halogen; n is 0, 1, 2, 3 or 4;

each Ra is independently hydrogen, halogen, hydroxy, cyano, optionally substituted C<sub>1-8</sub> alkyl, optionally substituted C<sub>2-6</sub> alkenyl, optionally substituted C<sub>2-6</sub> alkynyl, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, 20 optionally substituted C<sub>3-7</sub> cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocyclyl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio, optionally substituted arylthio or R<sup>22</sup>R<sup>23</sup>N where R<sup>22</sup> 25 and R<sup>23</sup> are, independently, hydrogen, C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-6</sub> alkenyl, C<sub>3-6</sub> alkynyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, C<sub>2-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkoxycarbonyl or R<sup>22</sup> and R<sup>23</sup> together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups, or two Ra groups on the same carbon atom are =O or 30 two adjacent Ra groups are a bond, or two Ra groups together with the carbon to which they are bound form a three- to seven-membered ring, that may be saturated or

unsaturated, and that may contain one or two hetero atoms selected from the group consisting of N, O and S, and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups; or two Ra groups together form a group -CH<sub>2</sub>-, -CH=CH- or -CH<sub>2</sub>CH<sub>2</sub>; p is 0, 1, 2, 3, 4, 5 or 6; q is 0, 1, 2, 3, 4, 5 or 6; provided that when p is 2 then q is  
5 not 2;

p+q is 1, 2, 3, 4, 5 or 6;

R<sup>8</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl or optionally substituted alkenylcarbonyl; or salts or N-oxides thereof.

2. A method according to claim 1 wherein Y is a single bond or C=O.
- 15 3. A method according to claim 1 or claim 2 wherein R<sup>2</sup> and R<sup>3</sup> are each independently hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or cyano.
4. A method according to any preceeding claim wherein R<sup>1</sup> is hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> cyanoalkyl, C<sub>1-6</sub> haloalkyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl,  
20 heteroaryl(C<sub>1-6</sub>)alkyl (wherein the heteroaryl group may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxy carbonyl, C<sub>1-6</sub> alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system  
25 may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), aryl(C<sub>1-6</sub>)alkyl (wherein the aryl group may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxy carbonyl, C<sub>1-6</sub> alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the aryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or  
30 heterocyclic ring, itself optionally substituted with halogen), C<sub>1-6</sub> alkylcarbonylamino(C<sub>1-6</sub>)alkyl, aryl (which may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, C<sub>1-6</sub>

alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxycarbonyl, C<sub>1-6</sub> alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the aryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), heteroaryl (which may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxycarbonyl, C<sub>1-6</sub> alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, phenoxy (wherein the phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), heteroaryloxy (optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), heterocyclloxy (optionally substituted by halo, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), cyano, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, C<sub>3-6</sub> cycloalkyl, C<sub>5-7</sub> cycloalkenyl, heterocyclyl (optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> haloalkylthio or NR<sup>13</sup>R<sup>14</sup> where R<sup>13</sup> and R<sup>14</sup> are independently hydrogen, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, phenyl (which may be optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino, dialkylamino or C<sub>1-4</sub> alkoxycarbonyl), phenyl (C<sub>1-6</sub>)alkyl (wherein the phenyl group may be optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino, dialkylamino, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkoxycarbonyl, or two adjacent positions on the phenyl ring may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen), heteroaryl (C<sub>1-6</sub>)alkyl (wherein the heteroaryl group may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, C<sub>1-6</sub> alkylsulfonyl, C<sub>1-6</sub> alkylsulfinyl, C<sub>1-6</sub> alkylthio, C<sub>1-6</sub> alkoxycarbonyl, C<sub>1-6</sub> alkylcarbonylamino, arylcarbonyl, or two adjacent positions on the heteroaryl system may be cyclised to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring, itself optionally substituted with halogen) or heteroaryl (which may be optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy, C<sub>1-4</sub>

alkoxycarbonyl C<sub>1-6</sub> alkylcarbonylamino, phenoxy carbonylamino (wherein the phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), amino, C<sub>1-6</sub> alkylamino or phenylamino (wherein the phenyl group is optionally substituted 5 halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino)).

5. A method according to any preceding claim wherein each R<sup>4</sup> is independently halogen, cyano, C<sub>1-8</sub> alkyl, C<sub>1-8</sub> haloalkyl, C<sub>1-6</sub> cyanoalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-6</sub>)alkyl, C<sub>5-6</sub> cycloalkenyl(C<sub>1-6</sub>)alkyl, C<sub>3-6</sub> alkenyloxy(C<sub>1-6</sub>)alkyl, C<sub>3-6</sub> alkynyloxy(C<sub>1-6</sub>)alkyl, aryloxy(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> carboxyalkyl, C<sub>1-6</sub> alkylcarbonyl(C<sub>1-6</sub>)alkyl, C<sub>2-6</sub> alkenylcarbonyl(C<sub>1-6</sub>)alkyl, C<sub>2-6</sub> alkynylcarbonyl(C<sub>1-6</sub>)-alkyl, C<sub>1-6</sub> alkoxycarbonyl(C<sub>1-6</sub>)alkyl, C<sub>3-6</sub> alkenyloxycarbonyl(C<sub>1-6</sub>)alkyl, C<sub>3-6</sub> alkynyloxycarbonyl(C<sub>1-6</sub>)alkyl, aryloxycarbonyl(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkylthio(C<sub>1-6</sub>)alkyl, 10 C<sub>1-6</sub> alkylsulfinyl(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkylsulfonyl(C<sub>1-6</sub>)alkyl, aminocarbonyl(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkylaminocarbonyl(C<sub>1-6</sub>)alkyl, di(C<sub>1-6</sub>)alkylaminocarbonyl(C<sub>1-6</sub>)alkyl, phenyl(C<sub>1-4</sub>)alkyl (wherein the phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino 15 or dialkylamino), heteroaryl(C<sub>1-4</sub>)alkyl (wherein the heteroaryl group is optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), heterocyclyl(C<sub>1-4</sub>)alkyl (wherein the heterocyclyl group is optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), C<sub>2-6</sub> alkenyl, aminocarbonyl(C<sub>2-6</sub>)alkenyl, C<sub>1-6</sub> alkylaminocarbonyl(C<sub>2-6</sub>)alkenyl, di(C<sub>1-6</sub>)alkylaminocarbonyl(C<sub>2-6</sub>)alkenyl, phenyl(C<sub>2-4</sub>)-alkenyl, (wherein the 20 phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), C<sub>2-6</sub> alkynyl, trimethylsilyl(C<sub>2-6</sub>)alkynyl, aminocarbonyl(C<sub>2-6</sub>)alkynyl, C<sub>1-6</sub> alkylaminocarbonyl(C<sub>2-6</sub>)alkynyl, di(C<sub>1-6</sub>)alkylaminocarbonyl(C<sub>2-6</sub>)alkynyl, C<sub>1-6</sub> alkoxycarbonyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> halocycloalkyl, C<sub>3-7</sub> cyanocycloalkyl, C<sub>1-3</sub> alkyl(C<sub>3-7</sub>)-cycloalkyl, C<sub>1-3</sub> alkyl(C<sub>3-7</sub>)halocycloalkyl, phenyl (optionally substituted by 25 halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), heteroaryl (optionally substituted by halo, nitro, 30 cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), heterocyclyl(C<sub>1-4</sub>)alkyl (wherein the heterocyclyl group is optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), C<sub>2-6</sub> alkenyl, aminocarbonyl(C<sub>2-6</sub>)alkenyl, C<sub>1-6</sub> alkylaminocarbonyl(C<sub>2-6</sub>)alkenyl, di(C<sub>1-6</sub>)alkylaminocarbonyl(C<sub>2-6</sub>)alkenyl, phenyl(C<sub>2-4</sub>)-alkenyl, (wherein the phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), C<sub>2-6</sub> alkynyl, trimethylsilyl(C<sub>2-6</sub>)alkynyl, aminocarbonyl(C<sub>2-6</sub>)alkynyl, C<sub>1-6</sub> alkylaminocarbonyl(C<sub>2-6</sub>)alkynyl, di(C<sub>1-6</sub>)alkylaminocarbonyl(C<sub>2-6</sub>)alkynyl, C<sub>1-6</sub> alkoxycarbonyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> halocycloalkyl, C<sub>3-7</sub> cyanocycloalkyl, C<sub>1-3</sub> alkyl(C<sub>3-7</sub>)-cycloalkyl, C<sub>1-3</sub> alkyl(C<sub>3-7</sub>)halocycloalkyl, phenyl (optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), heteroaryl (optionally substituted by halo, nitro,

cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), heterocyclyl (wherein the heterocyclyl group is optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), or 2 adjacent groups R<sup>4</sup> together with the carbon atoms to which they are attached form a 4, 5, 6 or 7 membered carbocyclic or heterocyclic ring which may be optionally substituted by halogen, C<sub>1-8</sub> alkoxy, C<sub>1-6</sub> haloalkoxy, phenoxy (optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), heteroaryloxy (optionally substituted by halo, nitro, cyano, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy or C<sub>1-6</sub> haloalkoxy), C<sub>1-8</sub> alkylthio or R<sup>19</sup>R<sup>20</sup>N where R<sup>19</sup> and R<sup>20</sup> are, independently, 5 hydrogen, C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-6</sub> alkenyl, C<sub>3-6</sub> alkynyl, C<sub>2-6</sub> haloalkyl, C<sub>1-6</sub> alkoxycarbonyl or R<sup>19</sup> and R<sup>20</sup> together with the N atom to which they are attached 10 form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups; and n is 0, 1, 2 or 3.

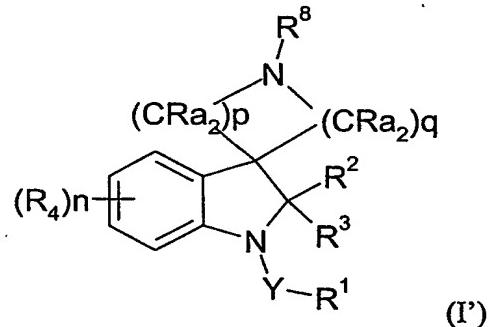
- 15 6. A method according to any preceding claim wherein R<sup>8</sup> is C<sub>1-10</sub> alkyl, C<sub>1-10</sub> haloalkyl, aryl(C<sub>1-6</sub>)alkyl (wherein the aryl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), heteroaryl(C<sub>1-6</sub>)alkyl (wherein the heteroaryl group is 20 optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), arylcarbonyl-(C<sub>1-6</sub>)alkyl (wherein the aryl group may be optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino and the alkyl group may be optionally substituted by aryl), C<sub>2-8</sub> alkenyl, 25 C<sub>2-8</sub> haloalkenyl, aryl(C<sub>2-6</sub>)-alkenyl (wherein the aryl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino, C<sub>1-6</sub> alkoxycarbonyl, or two adjacent substituents can cyclise to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring), 30 heteroaryl(C<sub>2-6</sub>)-alkenyl (wherein the heteroaryl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino, C<sub>1-6</sub> alkoxycarbonyl, or two adjacent substituents can cyclise to form a 5, 6 or 7 membered carbocyclic or heterocyclic ring), C<sub>2-6</sub>

alkynyl, phenyl(C<sub>2-6</sub>)alkynyl (wherein the phenyl group is optionally substituted by halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), C<sub>3-7</sub> cycloalkyl, C<sub>1-6</sub> alkoxycarbonyl, C<sub>1-6</sub> alkylcarbonyl, C<sub>1-6</sub> haloalkylcarbonyl or aryl(C<sub>2-6</sub>)alkenylcarbonyl (wherein the aryl group may be optionally substituted halogen, C<sub>1-4</sub> alkyl, C<sub>1-4</sub> alkoxy, C<sub>1-4</sub> haloalkyl, C<sub>1-4</sub> haloalkoxy, CN, NO<sub>2</sub>, aryl, heteroaryl, amino or dialkylamino), or -C(R<sup>51</sup>)(R<sup>52</sup>)-[CR<sup>53</sup>=CR<sup>54</sup>]z-R<sup>55</sup> where z is 1 or 2, R<sup>51</sup> and R<sup>52</sup> are each independently H, halo or C<sub>1-2</sub> alkyl, R<sup>53</sup> and R<sup>54</sup> are each independently H, halogen, C<sub>1-4</sub> alkyl or C<sub>1-4</sub> haloalkyl and R<sup>55</sup> is optionally substituted aryl or optionally substituted heteroaryl).

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- 7. A method according to any preceding claim wherein each Ra is hydrogen.
- 8. A method according to any preceding claim wherein p is 1 or 2 and q is 2 or 3.
- 15 9. A compound of formula I'



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wherein Y is CO, R<sup>2</sup> and R<sup>3</sup> are both hydrogen, R<sup>1</sup> is hydrogen, optionally substituted alkyl, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, aminocarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted heterocyclyloxy, cyano, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted cycloalkenyl, formyl, optionally substituted heterocyclyl, optionally substituted alkylthio, NO or NR<sup>13</sup>R<sup>14</sup> where R<sup>13</sup> and R<sup>14</sup> are independently hydrogen, COR<sup>15</sup>, optionally substituted alkyl, optionally substituted aryl, optionally substituted

heteroaryl, optionally substituted heterocycll or R<sup>13</sup> and R<sup>14</sup> together with the N atom to which they are attached form a group -N=C(R<sup>16</sup>)-NR<sup>17</sup>R<sup>18</sup>; R<sup>15</sup> is H, 5 optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, optionally substituted aryloxy optionally substituted heteroaryl, optionally substituted heteroaryloxy or NR<sup>19</sup>R<sup>20</sup>; R<sup>17</sup>, R<sup>18</sup> and R<sup>18</sup> are each independently H or lower alkyl; R<sup>19</sup> and R<sup>20</sup> are independently optionally substituted alkyl, optionally substituted aryl or optionally substituted heteroaryl;

each R<sup>4</sup> is independently halogen, nitro, cyano, optionally substituted C<sub>1-8</sub> alkyl, 10 optionally substituted C<sub>2-6</sub> alkenyl, optionally substituted C<sub>2-6</sub> alkynyl, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted C<sub>3-7</sub> cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocycll, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted heteroaryloxy, 15 optionally substituted alkylthio or R<sup>20</sup>R<sup>21</sup>N where R<sup>20</sup> and R<sup>21</sup> are, independently, hydrogen, C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-6</sub> alkenyl, C<sub>3-6</sub> alkynyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, C<sub>2-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkoxycarbonyl or R<sup>20</sup> and R<sup>21</sup> together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms 20 selected from O, N or S and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups, or 2 adjacent groups R<sup>4</sup> together with the carbon atoms to which they are attached form a 4, 5, 6, or 7 membered carbocyclic or heterocyclic ring which may be optionally substituted by halogen; n is 0, 1, 2, 3 or 4;

each Ra is independently hydrogen, halogen, hydroxy, cyano, optionally substituted 25 C<sub>1-8</sub> alkyl, optionally substituted C<sub>2-6</sub> alkenyl, optionally substituted C<sub>2-6</sub> alkynyl, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl, optionally substituted alkylaminocarbonyl, optionally substituted dialkylaminocarbonyl, optionally substituted C<sub>3-7</sub> cycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heterocycll, optionally substituted alkoxy, 30 optionally substituted aryloxy, optionally substituted heteroaryloxy, optionally substituted alkylthio, optionally substituted arylthio or R<sup>22</sup>R<sup>23</sup>N where R<sup>22</sup> and R<sup>23</sup> are, independently, hydrogen, C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, C<sub>3-6</sub> alkenyl, C<sub>3-6</sub>

alkynyl, C<sub>3-7</sub> cycloalkyl(C<sub>1-4</sub>)alkyl, C<sub>2-6</sub> haloalkyl, C<sub>1-6</sub> alkoxy(C<sub>1-6</sub>)alkyl, C<sub>1-6</sub> alkoxycarbonyl or R<sup>22</sup> and R<sup>23</sup> together with the N atom to which they are attached form a five, six or seven-membered heterocyclic ring which may contain one or two further heteroatoms selected from O, N or S and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups, or two Ra groups on the same carbon atom are =O or two adjacent Ra groups are a bond, or two Ra groups together with the carbon to which they are bound form a three- to seven-membered ring, that may be saturated or unsaturated, and that may contain one or two hetero atoms selected from the group consisting of N, O and S, and which may be optionally substituted by one or two C<sub>1-6</sub> alkyl groups; or two Ra groups together form a group -CH<sub>2</sub>-, -CH=CH- or -CH<sub>2</sub>CH<sub>2</sub>;

5 p is 0, 1, 2, 3, 4, 5 or 6; q is 0, 1, 2, 3, 4, 5 or 6; provided that when p is 2 then q is not 2;

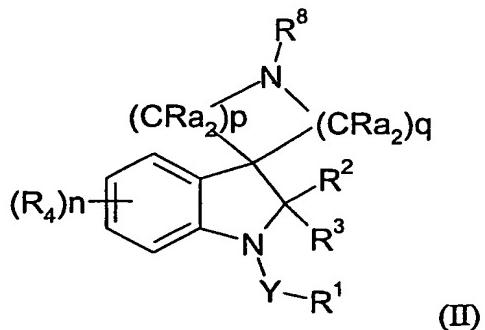
10 p+q is 1, 2, 3, 4, 5 or 6;

R<sup>8</sup> is optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted cycloalkyl, optionally substituted aryl, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted alkoxycarbonyl, optionally substituted alkylcarbonyl or optionally substituted alkenylcarbonyl; or salts or N-oxides thereof provided that when n is 0, p is 1, q is 2, R<sup>1</sup> is CH<sub>3</sub> and all groups Ra are H then R<sup>8</sup> is not H, methyl, benzyl or CH<sub>2</sub>-CH=CH<sub>2</sub>

15 and when n is 0, (CRa<sub>2</sub>)p is CH-phenyl, (CRa<sub>2</sub>)q is (CH<sub>2</sub>)<sub>2</sub> and R<sup>1</sup> is methyl then R<sup>8</sup> is not COOCH<sub>3</sub>.

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#### 10. A compound of formula II



25 wherein Y, n, p, q, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup> and Ra are as defined in claim 9 and R<sup>8</sup> is hydrogen or *tert*-butoxycarbonyl.

11. An insecticidal acaricidal and nematicidal composition comprising an insecticidally, acaricidally or nematicidally effective amount of a compound of formula I as defined in claim 1.